

## CLAIMS

### WHAT IS CLAIMED IS:

- 5           1.     A heat exchanger comprising:  
            a first end tank;  
            a second end tank opposite the first end tank;  
            a plurality of first tubes in fluid communication with the first and second  
            end tanks, the plurality of first tubes adapted to have a first fluid flow  
10     therethrough;  
            a plurality of second tubes in fluid communication with the first and  
            second end tanks, the plurality of second tubes adapted to have a second  
            fluid, different from the first fluid, flow therethrough;  
            a plurality of fins disposed between the first and second tubes, with the  
15     first and second tubes and the fins being generally co-planar relative to each  
            other;  
            wherein at least one of the first fluid or second fluid is a radiator fluid.
- 20           2.     A heat exchanger as in claim 1 wherein the first end tank and  
            the second end tank each include at least one baffle.
- 25           3.     A heat exchanger as in claim 1 wherein each of the plurality of  
            first tubes includes a passageway and the passageway includes partitions,  
            which divide the passageway such that the tube will perform a passive bypass  
            function.
4.     A heat exchanger as in claim 3 wherein the partitions include  
            fins.
- 30           5.     A heat exchanger as in claim 1 wherein at least one of the first  
            tubes, second tubes or third tubes is of another size than one of the other  
            tubes.

6. A heat exchanger as in claim 1 wherein the first fluid is an oil.

7. A heat exchanger comprising:

a first end tank;

5 a second end tank opposite the first end tank;

a plurality of first tubes in fluid communication with the first and second end tanks, the plurality of first tubes adapted to have a first fluid flow therethrough;

10 a plurality of second tubes in fluid communication with the first and second end tanks, the plurality of second tubes adapted to have a second fluid, different from the first fluid, flow therethrough;

a plurality of third tubes in fluid communication with the first and second end tanks, the plurality of third tubes adapted to have a third fluid, different from the first or second fluid, flow therethrough;

15 a plurality of fins disposed between the first, second and third tubes, with the majority of fins being generally co-planar relative to each other;

wherein at least one of the first fluid, second fluid or third fluid is a radiator fluid.

20 8. A heat exchanger as in claim 7 wherein the first end tank and the second end tank each include at least one baffle.

9. A heat exchanger as in claim 7 wherein each of the plurality of first tubes, second tubes or third tubes includes a passageway and the passageway includes partitions, which divide the passageway such that the tube will perform a passive bypass function.

10. A heat exchanger as in claim 9 wherein the partitions include fins.

30 11. A heat exchanger as in claim 7 wherein at least one of the first tubes, second tubes or third tubes is of another size than one of the other tubes.

12. A heat exchanger as in claim 7 wherein the first fluid is an oil.

13. A heat exchanger as in claim 7, wherein the first or second fluid is an oil.

5

14. A heat exchanger comprising:

a first end tank;

a second end tank opposite the first end tank;

a plurality of first metal tubes in fluid communication with the first and  
10 second end tanks, and being adapted to have a first fluid flow there-through;

a plurality of second metal tubes in fluid communication with the first  
and second end tanks, and being adapted to have a second fluid, different  
from the first fluid, flow there-through;

a plurality of third metal tubes in fluid communication with the first and  
15 second end tanks, and being adapted to have a third fluid, different from the  
first fluid or second fluid, flow there-through and

a plurality of fins disposed between any of the first, second or third  
tubes, with at least two of the first, second or third tubes and the fins being  
generally co-planar relative to each other;

20 wherein at least one of the first, second or third metal tubes includes  
an interior wall structure including a partition adapted for subdividing the tube  
into a plurality of passageways within the tube.

15. A heat exchanger as in claim 14 wherein the first end tank and  
25 the second end tank each include at least one baffle.

16. A heat exchanger as in claim 14 wherein at least one of the first  
tubes, second tubes or third tubes is of another size than one of the other  
tubes.

30

17. A heat exchanger as in claim 14 wherein one or more of the  
passageways includes partitions, which divide the passageway such that the  
tube will perform a passive bypass function.

18. A heat exchanger as in claim 14 wherein the partition includes at least one fin.

5

19. A heat exchanger for an automotive vehicle, comprising:  
at least one end tank;

at least two heat exchangers including a plurality of spaced apart metal tubes with fins between the spaced tubes;

10 the heat exchangers being disposed so that their respective tubes and fins are generally co-planar with each other and are connected to the end tank;

the heat exchangers being selected from the group consisting of an oil heat exchanger, a condenser, a radiator or combinations thereof.

15

20. A heat exchanger as in claim 19 wherein the at least one of said heat exchangers is a radiator.

21. A heat exchanger system comprising a heat exchanger as in claim  
20 1 and at least one other heat exchanger.

22. A heat exchanger system comprising a heat exchanger as in claim 7 and at least one other heat exchanger.

25 23. A heat exchanger system as in claim 21, wherein one heat exchanger is adapted to have a fluid selected from the group of radiator coolant and an automotive fluid and the other heat exchanger is adapted to have a fluid selected from the group of automotive fluids.

30 24. A heat exchanger system as in claim 22, wherein one heat exchanger is adapted to have a fluid selected from the group of radiator coolant and an automotive fluid and the other heat exchanger is adapted to have a fluid selected from the group of automotive fluids.

25. A heat exchanger system as in claim 21, wherein the heat exchangers are arranged in parallel.

5        26. A heat exchanger system as in claim 22, wherein the heat exchangers are arranged in parallel.

27. A heat exchanger system as in claim 21, wherein the heat exchangers are arranged side by side.

10

28. A heat exchanger system as in claim 22, wherein the heat exchangers are arranged side by side.

29. A heat exchanger as in claim 1, wherein the fluid flow direction is  
15        vertical or down flow from top to bottom or bottom to top.

30. A heat exchanger as in claim 7, wherein the fluid flow direction is vertical or down flow from top to bottom or bottom to top.

20